

DOCUMENT RESUME

ED 099 961

EA 006 575

TITLE Projections of Public and Nonpublic School Enrollment and High School Graduates in New York State: 1974-75 to 1992-93.

INSTITUTION New York State Education Dept., Albany. Information Center on Education.

PUB DATE 74

NOTE 20p.

EDRS PRICE MF-\$0.75 HC-\$1.50 PLUS POSTAGE

DESCRIPTORS Educational Demand; *Educational Trends; Elementary Secondary Education; *Enrollment Projections; Enrollment Rate; *Enrollment Trends; Private Schools; Special Education; Statistical Analysis; *Student Enrollment; *Tables (Data)

IDENTIFIERS *New York State

ABSTRACT

The school enrollment projections presented in this report are based on the application of a modified version of the cohort survival model. Retention ratios from grade to grade were analyzed for six prior years and the trend extended over the 19-year period from 1974-75 to 1992-93. Actual birth figures, population estimates, and projected New York State public school age-grade matrices were used to estimate future first grade enrollments. These first grade estimates together with retention ratios for each grade made possible projections for all grades beginning with actual enrollment figures for the base year, 1973-74. The high school graduate projection was determined from twelfth grade enrollment estimates. Projected enrollments in special classes for handicapped children are based solely on the most recent ratios of enrollment in special classes to total enrollment. No attempt was made to estimate the effects of legislative action on such enrollments. Regional estimates of public school enrollment were obtained by apportioning the first grade estimates for the total State according to the historical trend of first grade enrollment in the various regions. Similar methods were used to project nonpublic school enrollment. Projections are presented in graphic and tabular form. (Author/DN)

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRO-
DUCED EXACTLY AS RECEIVED FROM
THE PERSON OR ORGANIZATION ORIGIN-
ATING IT. POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRESENT
OFFICIAL NATIONAL INSTITUTE OF
EDUCATION POSITION OR POLICY

ED 099961

PROJECTIONS OF PUBLIC AND NONPUBLIC SCHOOL
ENROLLMENT AND HIGH SCHOOL GRADUATES
IN NEW YORK STATE

1974-75 TO 1992-93

EA 006 575

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Information Center on Education
1974

THE UNIVERSITY OF THE STATE OF NEW YORK

Regents of The University (with years when terms expire)

1984	Joseph W. McGovern, A.B., J.D., L.H.D., LL.D., D.C.L., Litt.D., Chancellor - - - - -	New York
1981	Theodore M. Black, A.B., Litt.D., LL.D., Pd.D. Vice Chancellor - - - - -	Sands Point
1978	Alexander J. Allan, Jr., LL.D., Litt.D. - - - - -	Troy
1987	Carl H. Pforzheimer, Jr., A.B., M.B.A., D.C.S., H.H.D. - - - -	Purchase
1975	Edward M. M. Warburg, B.S., L.H.D. - - - - -	New York
1980	Joseph T. King, LL.B. - - - - -	Shelter Island
1981	Joseph C. Indelicato, M.D. - - - - -	Brooklyn
1976	Helen B. Power, A.B., Litt.D., L.H.D., LL.D. - - - - -	Rochester
1979	Francis W. McGinley, B.S., J.D., LL.D. - - - - -	Glens Falls
1986	Kenneth B. Clark, A.B., M.S., Ph.D., LL.D., L.H.D., D.Sc. - -	Hastings on Hudson
1983	Harold E. Newcomb, B.A. - - - - -	Owego
1988	Willard A. Genrich, LL.B., L.H.D. - - - - -	Buffalo
1982	Emlyn I. Griffith, A.B., J.D. - - - - -	Rome
1977	Genevieve S. Klein, B.S., M.A. - - - - -	Bayside
1981	William Jovanovich, A.B., LL.D., Litt.D., L.H.D. - - - - -	Briarcliff Manor

President of The University and Commissioner of Education

Ewald B. Nyquist

Executive Deputy Commissioner of Education

Gordon M. Ambach

Assistant Commissioner for Long-Range Planning

Gerald L. Freeborne

Director, Information Center on Education

John J. Stiglmeier

Chief, Bureau of Educational Data Systems

Leonard D. Powell

Chief, Bureau of Statistical Services

Lee R. Wolfe

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1	Enrollment Projections in New York State Schools, 1974-75 to 1992-93	2
2	Enrollment Projections for New York State Public and Nonpublic Schools, 1974-75 to 1992-93	3
3	Enrollment Projections for New York State Public Schools, 1974-75 to 1992-93	4
4	Enrollment Projections for New York State Nonpublic Schools, 1974-75 to 1992-93	5

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Enrollment Projections in Public and Nonpublic Schools in New York State, 1974-75 to 1992-93	6
2	Enrollment Projections in Public Schools in New York State, 1974-75 to 1992-93	7
3	Enrollment Projections in Nonpublic Schools in New York State, 1974-75 to 1992-93	8
4	Enrollment Projections in Public Schools by Region in New York State, 1974-75 to 1992-93	9
5	Projections of Twelfth Grade Enrollment and High School Graduates in Public and Nonpublic Schools in New York State to 1992-93	10

LIST OF APPENDICES

<u>Appendix</u>		<u>Page</u>
A	Procedures for Projecting Public and Nonpublic School Enrollment for New York State	11
B	Counties Included in Each Geographic Region in New York State, 1972-73	15

INTRODUCTION

Projections of public school enrollment are based on the application of a modified version of the cohort survival model. Retention ratios from grade to grade were analyzed for a period of six prior years and the trend extended over the nineteen year period from 1974-75 to 1992-93. Actual birth figures, population estimates, and projected New York State public school age-grade matrices were used to estimate future first grade enrollments. These first grade estimates together with retention ratios for each grade made possible projections for all grades beginning with actual enrollment figures for the base year, 1973-74.

A similar procedure was used to project nonpublic school enrollment for the same period. The starting point for this projection, however, was estimating future enrollment in second grade. Population estimates and projected New York State nonpublic school age-grade matrices were the basis for these second grade estimates. Retention ratios for each grade were calculated and applied to project future enrollment.

The projection of high school graduates was determined from twelfth grade enrollment estimates.

Projected enrollments in special classes for handicapped children are based solely on the most recent ratios of enrollment in special classes to total enrollment. No attempt was made to estimate the effects of legislative action on such enrollments.

Regional estimates of public school enrollment were obtained by apportioning the first grade estimates for the total State according to the historical trend of first grade enrollment in the various regions. These first grade estimates and retention ratios for each grade were used to project total regional enrollments for 1974-75 to 1992-93. Slight adjustments were made in regional totals so the sums of regional enrollments would equal State totals. Counties included in each regional projection are displayed in Appendix B.

All public school enrollment projections in this publication are for grades K-12 in regular day schools. Projections for prekindergarten and full-time enrollment in classes conducted by Boards of Cooperative Educational Services were not attempted because adequate trend data were not available.

For a more detailed description of the projection methodology, refer to Appendix A.

FIGURE 1
ENROLLMENT PROJECTIONS IN NEW YORK STATE SCHOOLS
1974-75 TO 1992-93

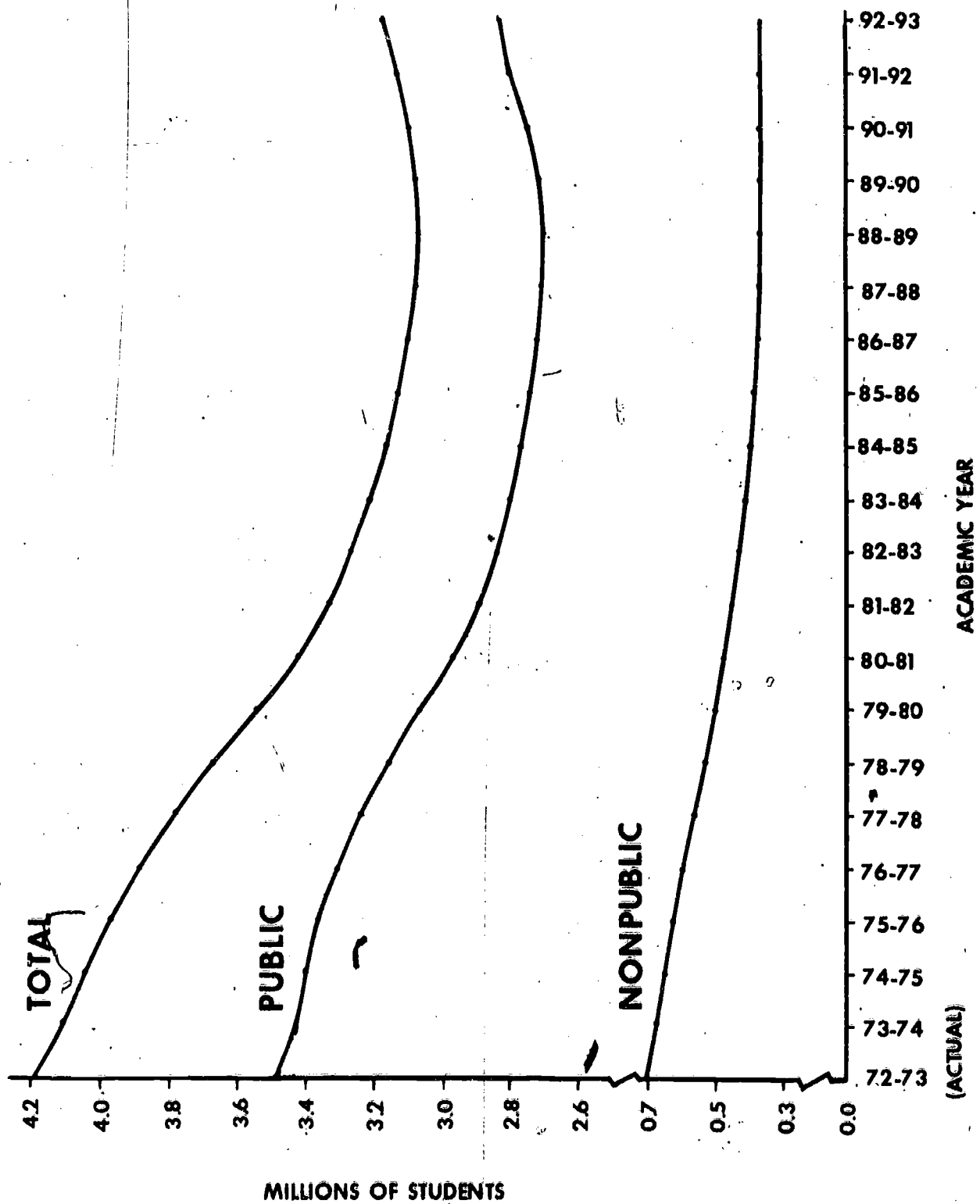


FIGURE 2
ENROLLMENT PROJECTIONS
FOR NEW YORK STATE PUBLIC AND NONPUBLIC SCHOOLS
1974-75 TO 1992-93

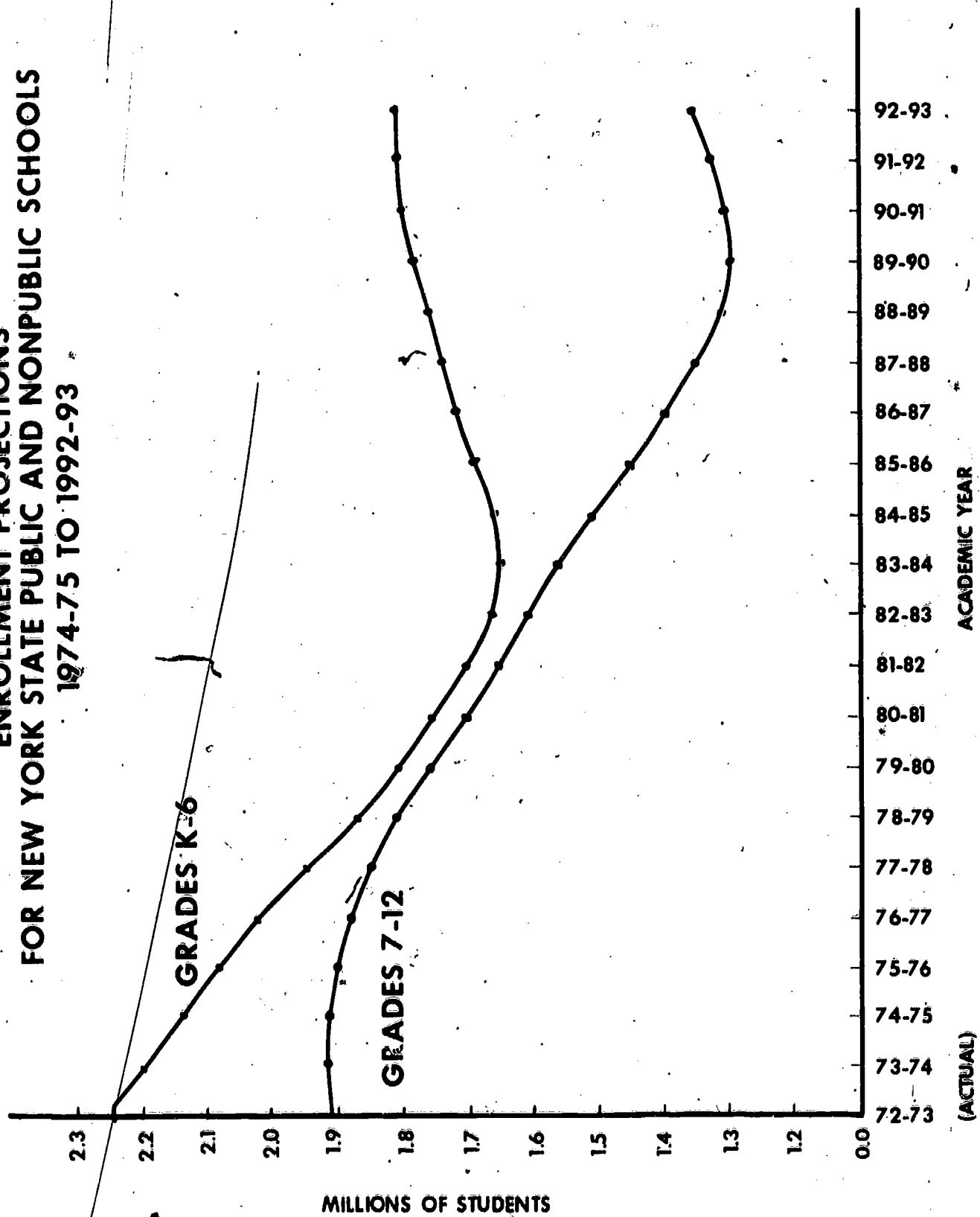


FIGURE 3

ENROLLMENT PROJECTIONS FOR NEW YORK STATE PUBLIC SCHOOLS 1974-75 TO 1992-93

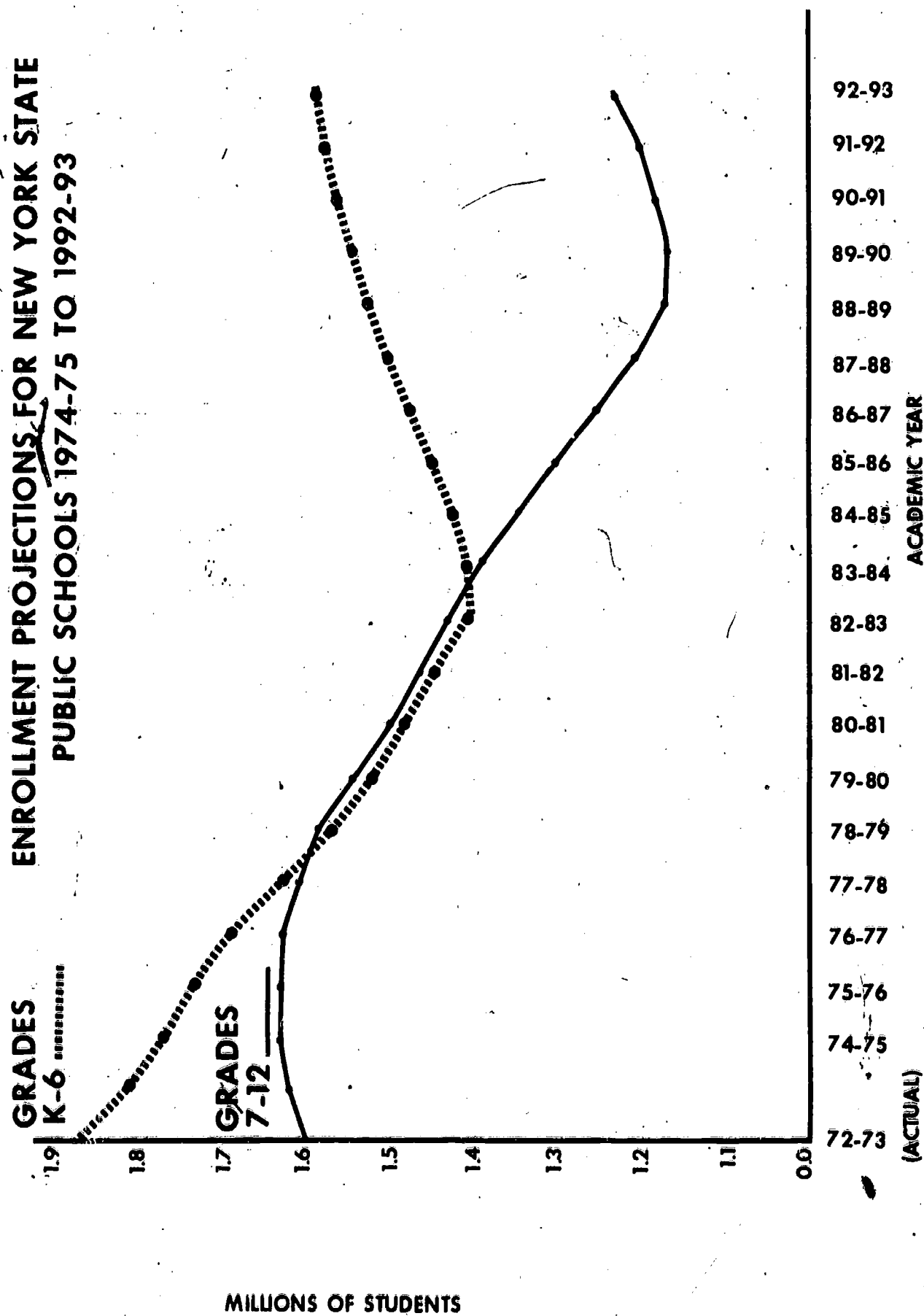


FIGURE 4
ENROLLMENT PROJECTIONS
FOR NEW YORK STATE NONPUBLIC SCHOOLS
1974-75 TO 1992-93

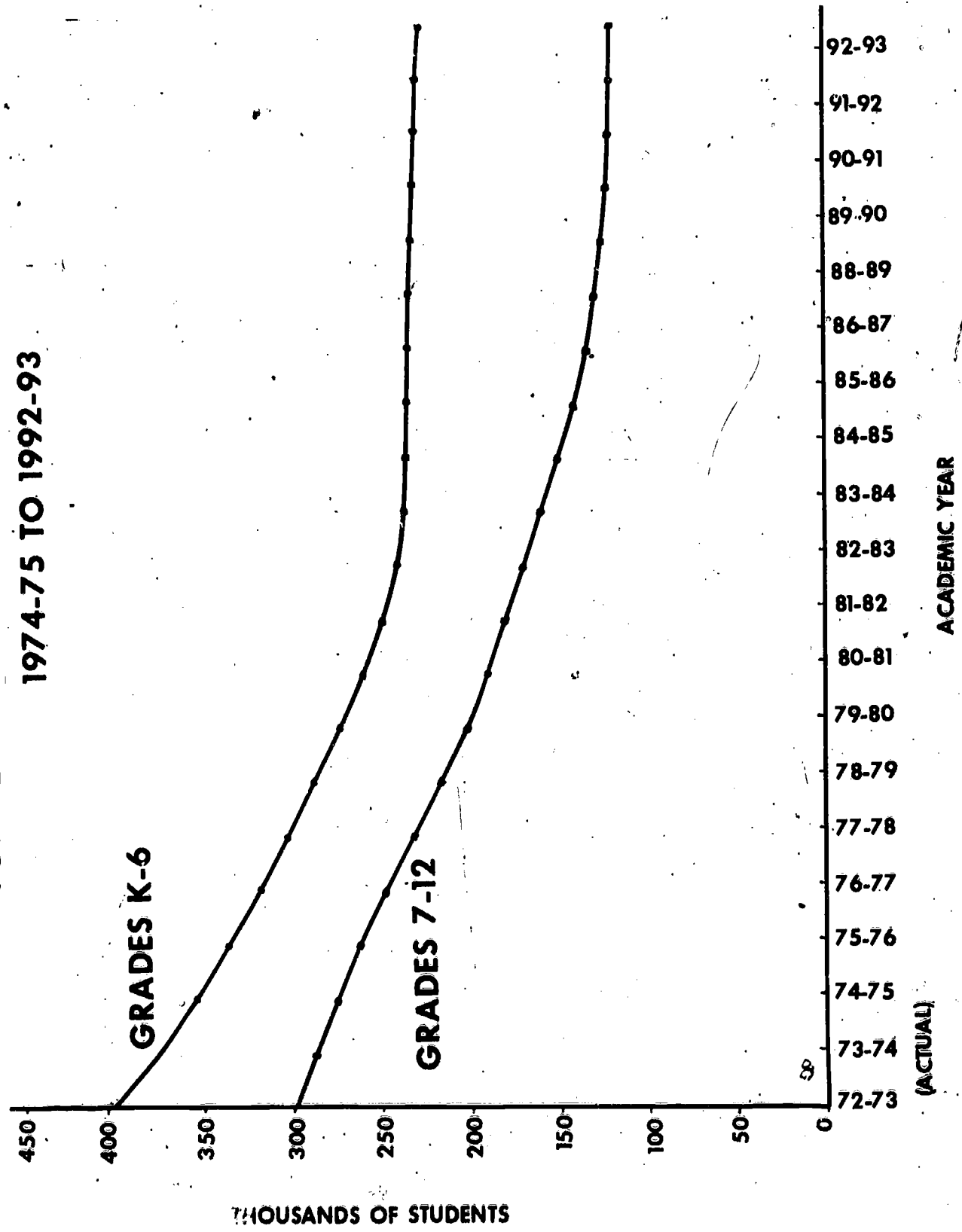


TABLE 1

ENROLLMENT PROJECTIONS IN PUBLIC AND NONPUBLIC SCHOOLS
IN NEW YORK STATE

1974-75 TO 1992-93

Type of School	Actual		Projected				
	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Public	3,474,392	3,427,560	3,395,874	3,367,616	3,310,920	3,232,673	3,148,093
Nonpublic	718,442	678,553	646,579	612,803	579,597	546,928	515,763
TOTAL	4,192,834	4,106,113	4,042,453	3,980,419	3,890,517	3,779,601	3,663,856

TABLE 1 (Continued)

Type of School	Projected						
	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86
Public	3,061,315	2,981,278	2,908,223	2,845,227	2,800,190	2,771,954	2,751,749
Nonpublic	486,355	461,369	440,057	422,126	407,878	395,940	386,219
TOTAL	3,547,670	3,442,647	3,348,280	3,267,353	3,208,068	3,167,894	3,137,968

TABLE 1 (Concluded)

Type of School	Projected						
	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93
Public	2,733,500	2,714,318	2,699,092	2,711,255	2,745,188	2,773,212	2,818,780
Nonpublic	378,589	372,941	368,593	365,472	362,854	360,715	358,018
TOTAL	3,112,089	3,087,259	3,067,685	3,076,727	3,108,042	3,133,927	3,176,798

TABLE 2
ENROLLMENT PROJECTIONS IN PUBLIC SCHOOLS
IN NEW YORK STATE
1974-75 TO 1992-93

Grade	Actual		Projected								
	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
K	242,819	230,961	235,152	240,725	215,643	192,941	188,140	190,890	195,404	199,918	204,433
1	257,504	246,156	241,357	247,835	253,722	227,374	201,822	196,800	199,676	204,398	209,120
2	262,970	249,659	240,493	235,805	242,134	247,886	222,144	197,180	192,273	195,083	199,696
3	268,884	257,189	243,905	234,961	230,381	236,565	242,185	217,035	192,645	187,851	190,596
4	270,005	266,640	255,123	242,195	233,317	228,769	234,909	240,489	215,515	191,296	186,536
5	267,156	266,705	262,907	251,552	238,804	230,314	225,566	231,620	237,122	212,498	188,618
6	266,906	264,050	263,829	260,540	249,288	236,700	228,241	223,536	229,536	234,988	210,586
7	268,113	270,969	268,009	267,786	264,448	253,027	242,068	231,664	226,889	232,979	238,513
8	259,895	261,291	263,324	260,505	260,288	257,393	245,942	235,291	225,178	220,536	226,455
9	298,838	295,668	296,309	299,400	296,193	295,948	292,656	279,636	267,525	256,027	250,750
10	290,286	294,944	291,364	292,161	295,208	292,121	291,805	288,559	275,721	263,780	252,443
11	251,767	256,922	260,769	257,857	258,562	261,259	259,150	258,247	255,375	244,013	233,445
12	217,722	219,560	224,020	227,391	224,851	225,466	227,818	225,979	225,191	222,687	212,780
Special	51,527	46,846	49,313	48,903	48,081	46,910	45,647	44,389	43,228	42,169	41,256
TOTAL	3,474,392	3,427,560	3,395,874	3,367,616	3,310,920	3,232,673	3,148,093	3,061,315	2,981,278	2,908,223	2,845,227

TABLE 2 (Concluded)

Grade	Projected									
	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93
K	208,949	213,465	215,708	217,951	220,195	222,439	224,682	225,314	225,946	226,578
1	213,843	218,566	223,290	225,637	227,983	230,330	232,677	235,024	235,685	236,346
2	204,310	208,924	213,538	218,154	220,447	222,739	225,032	227,325	229,618	230,264
3	195,103	199,611	204,119	208,627	213,136	215,377	217,616	219,856	222,097	224,337
4	189,262	193,737	198,214	202,690	207,166	211,645	213,869	216,093	218,317	220,542
5	183,924	186,612	191,025	195,439	199,852	204,266	208,681	210,875	213,067	215,261
6	186,921	182,269	184,933	189,306	193,680	198,054	202,428	206,803	208,977	211,150
7	213,745	189,724	185,003	187,707	192,145	196,585	201,024	205,464	209,905	212,112
8	231,835	207,760	184,412	179,823	182,451	186,765	191,080	195,396	199,711	204,028
9	257,480	263,596	236,223	209,677	204,459	207,447	212,352	217,258	212,165	227,071
10	247,239	253,875	259,906	232,916	206,741	201,596	204,542	209,379	214,217	219,055
11	223,412	218,807	224,679	230,017	206,130	182,966	178,413	181,020	185,301	189,582
12	203,564	194,815	190,799	195,920	200,575	179,746	159,546	155,576	157,850	161,582
Special	40,603	40,193	39,900	39,636	39,358	39,137	39,313	39,805	40,356	40,872
TOTAL	2,800,190	2,771,954	2,751,749	2,733,500	2,714,318	2,699,092	2,711,255	2,745,488	2,773,212	2,818,780

TABLE 3
ENROLLMENT PROJECTIONS IN NONPUBLIC SCHOOLS
IN NEW YORK STATE
1974-75 TO 1992-93

Grade	Actual		Projected								
	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
K	26,257	26,953	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000
1	57,622	52,709	53,630	51,633	48,690	45,747	42,805	39,860	39,760	39,659	39,558
2	59,814	55,051	54,262	51,486	48,710	45,934	43,158	40,382	37,604	37,509	37,414
3	62,720	57,425	54,414	51,766	49,118	46,469	43,821	41,173	38,524	35,874	35,784
4	63,826	59,718	54,210	51,693	49,178	46,662	44,146	41,630	39,114	36,598	34,080
5	64,876	60,865	56,605	51,500	49,108	46,719	44,329	41,939	39,549	37,158	34,768
6	67,278	62,438	58,131	54,267	49,373	47,080	44,790	42,498	40,207	37,916	35,623
7	67,226	64,199	58,770	54,928	51,277	46,653	44,486	42,322	40,156	37,992	35,827
8	67,039	63,575	60,284	55,732	52,088	48,626	44,241	42,186	40,134	38,080	36,028
9	46,181	44,854	42,330	40,029	37,006	34,586	32,288	29,376	28,012	26,649	25,285
10	43,941	41,992	40,735	38,736	36,631	33,864	31,650	29,547	26,882	25,634	24,386
11	41,359	40,526	39,374	37,953	36,090	34,129	31,551	29,488	27,529	25,046	23,883
12	39,506	38,002	37,255	36,607	35,960	34,195	32,337	29,895	27,940	26,084	23,731
Special	10,797	10,246	10,579	10,473	10,368	10,264	10,161	10,059	9,958	9,858	9,759
TOTAL	718,442	678,553	646,579	612,803	579,597	546,928	515,763	486,355	461,369	440,057	422,126

TABLE 3 (Concluded)

Grade	Projected									
	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93
K	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000
1	39,457	39,357	39,256	39,155	39,055	38,954	38,854	38,132	37,411	36,689
2	37,319	37,224	37,129	37,034	36,939	36,844	36,749	36,655	35,974	35,293
3	35,693	35,602	35,512	35,421	35,330	35,240	35,149	35,059	34,969	34,319
4	33,995	33,908	33,822	33,736	33,650	33,546	33,478	33,392	33,306	33,221
5	32,376	32,295	32,213	32,131	32,049	31,968	31,869	31,804	31,722	31,641
6	33,332	31,039	30,961	30,883	30,804	30,725	30,648	30,553	30,490	30,412
7	33,660	31,495	29,329	29,255	29,181	29,107	29,032	28,959	28,870	28,810
8	33,975	31,920	29,867	27,813	27,743	27,672	27,602	27,531	27,462	27,397
9	23,923	22,559	21,195	19,832	18,468	18,421	18,374	18,328	18,281	18,235
10	23,138	21,892	20,644	19,396	18,148	16,900	16,857	16,814	16,772	16,729
11	22,720	21,558	20,397	19,234	18,071	16,908	15,746	15,705	15,666	15,626
12	22,629	21,527	20,426	19,326	18,224	17,122	16,020	14,919	14,880	14,844
Special	9,661	9,564	9,468	9,373	9,279	9,186	9,094	9,003	8,912	8,822
TOTAL	407,878	395,940	386,219	378,589	372,941	368,593	363,472	362,854	360,715	358,018

TABLE 4
ENROLLMENT PROJECTIONS IN PUBLIC SCHOOLS BY REGION
IN NEW YORK STATE
1974-75 TO 1992-93

Region	Actual		Projected								
	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
New York City	1,122,788	1,099,280	1,082,975	1,069,662	1,046,988	1,017,726	986,486	957,976	931,428	907,285	887,275
Nassau-Suffolk	635,341	629,135	624,112	619,836	611,011	595,613	581,278	566,592	552,880	539,903	528,331
Mid-Hudson	396,547	396,106	397,856	398,428	394,993	387,472	380,050	371,604	363,674	355,834	348,667
Upper Hudson	196,402	195,186	195,589	196,506	196,024	194,621	193,827	190,111	186,871	183,577	180,633
Lake Champlain- Lake George	55,072	55,079	53,791	53,223	52,323	51,248	49,722	48,229	46,815	45,594	44,449
Black River- St. Lawrence	68,123	67,121	66,546	65,952	64,805	63,700	62,143	60,256	58,504	57,104	55,842
Upper Mohawk	74,577	73,174	73,497	72,809	71,691	70,033	68,079	66,216	64,518	62,940	61,612
Central New York	174,975	173,719	172,701	171,475	168,514	164,405	159,567	154,638	150,004	145,781	142,359
Southern Tier East	117,320	116,194	114,118	112,590	109,827	106,524	102,885	99,170	95,597	92,427	89,697
Southern Tier Central	52,569	51,599	50,303	49,257	47,999	46,478	44,799	43,174	41,747	40,544	39,530
Southern Tier West	68,730	67,495	67,072	66,397	65,364	63,969	62,051	60,065	58,346	56,829	55,584
Genesee- Finger Lakes	234,265	232,257	232,406	232,681	230,205	228,439	222,739	216,751	211,356	206,417	201,955
Western New York	277,683	271,215	264,908	258,800	251,076	242,445	234,467	226,533	219,538	213,992	209,293
TOTAL STATE	3,474,392	3,427,560	3,395,874	3,367,616	3,310,920	3,232,673	3,148,093	3,061,315	2,981,278	2,908,223	2,845,227

TABLE 4 (Concluded)

Region	Projected									
	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93
New York City	873,971	867,831	863,269	857,811	852,152	850,642	858,330	871,411	884,850	895,935
Nassau-Suffolk	519,939	513,717	509,858	506,557	503,699	500,575	502,095	509,761	514,117	523,636
Mid-Hudson	343,270	339,396	336,784	334,142	331,633	328,993	329,877	334,796	337,122	343,595
Upper Hudson	178,138	176,288	174,718	173,399	172,281	170,858	170,697	171,468	172,927	176,124
Lake Champlain- Lake George	43,779	43,337	43,105	42,940	42,923	42,820	42,982	43,283	43,618	44,406
Black River- St. Lawrence	54,827	54,247	53,932	53,647	53,450	52,989	52,974	53,131	53,402	54,381
Upper Mohawk	60,567	59,897	59,617	59,155	58,897	58,620	58,787	59,379	59,856	60,941
Central New York	139,568	137,856	136,600	135,230	134,351	133,206	133,523	134,776	135,865	138,323
Southern Tier East	87,722	86,275	84,981	83,671	82,654	81,524	81,365	81,899	82,125	83,226
Southern Tier Central	38,868	38,455	38,085	37,795	37,688	37,517	37,651	38,021	38,319	39,010
Southern Tier West	54,636	54,051	53,525	53,120	52,787	52,215	51,964	51,932	52,498	53,460
Genesee- Finger Lakes	198,923	196,773	194,590	192,169	189,976	187,481	187,621	189,232	190,774	194,249
Western New York	205,982	203,831	202,685	203,864	201,817	201,652	203,389	206,099	207,739	211,494
TOTAL STATE	2,800,190	2,771,954	2,751,749	2,733,500	2,714,318	2,699,092	2,711,255	2,745,188	2,773,212	2,818,780

TABLE 5

PROJECTIONS OF TWELFTH GRADE ENROLLMENT AND HIGH SCHOOL GRADUATES
IN PUBLIC AND NONPUBLIC SCHOOLS
IN NEW YORK STATE TO 1992-93

Year	Public Schools		Nonpublic Schools		Total State	
	12th Grade	Graduates	12th Grade	Graduates	12th Grade	Graduates
1972-73 ^{1/}	217,722	204,037	39,506	39,137	257,228	243,174
1973-74 ^{2/}	219,560	206,996	38,002	37,685	257,562	244,681
1974-75	224,020	211,267	37,255	36,942	261,275	248,209
1975-76	227,391	214,529	36,607	36,266	263,998	250,795
1976-77	224,851	212,170	35,960	35,600	260,811	247,770
1977-78	225,466	212,825	34,195	33,853	259,611	246,678
1978-79	227,818	215,133	32,337	32,014	260,155	247,147
1979-80	225,979	213,484	29,895	29,596	255,874	243,080
1980-81	225,191	212,813	27,940	27,661	253,131	240,474
1981-82	222,687	210,509	26,084	25,823	248,771	236,332
1982-83	212,780	201,191	23,731	23,494	236,511	224,685
1983-84	203,564	192,480	22,629	22,403	226,193	214,883
1984-85	194,815	184,213	21,527	21,312	216,342	205,525
1985-86	190,799	180,442	20,426	20,222	211,225	200,664
1986-87	195,920	185,351	19,326	19,133	215,246	204,484
1987-88	200,575	189,817	18,224	18,042	218,799	207,859
1988-89	179,746	170,074	17,122	16,951	196,868	187,025
1989-90	159,928	150,928	16,020	15,860	175,566	166,788
1990-91	155,576	147,200	14,919	14,770	170,495	161,970
1991-92	157,850	149,363	14,880	14,731	172,730	164,094
1992-93	161,582	152,909	14,844	14,696	176,426	167,605

^{1/} Actual enrollment and graduate figures.

^{2/} Actual enrollment figures; estimated graduate figures.

APPENDIX A

PROCEDURES FOR PROJECTING PUBLIC AND NONPUBLIC SCHOOL ENROLLMENT
FOR NEW YORK STATE

Public school enrollment projections are accomplished through use of a cohort survival model. The model requires three basic inputs:

1. Actual enrollment by grade for the most recent year available (base year).
2. Grade to grade retention ratios for grades K through 11^a.
3. Projected entering cohorts (first grades) for each of the years to be projected (projection period).

When the above inputs have been determined, the following calculations are performed to complete the projection:

1. The projected entering cohorts (first grades) are inserted into their proper grade cells within the projection period.
2. The base year grade by grade enrollments are entered in their proper cells.
3. Enrollment in each grade in the base year is multiplied by its corresponding retention ratio^b to obtain enrollment in the next higher grade for the first projected year. The grades projected from the base year's grades plus the projected entering first grade cohort completes the projection for grades K-12 for the first year.
4. The first projected year is then used as the base year to determine enrollment for the second projected year.
5. The process continues in an iterative fashion until the projection for grades K-12 is completed for the number of years desired.
6. Enrollment in special classes for handicapped children is projected by applying a fixed multiplier to the projected enrollment in grades K-12. This multiplier is determined from the trend of ungraded enrollment as a proportion of total enrollment for several years. The decision as to what proportion will be used in the projection model is somewhat judgmental.

Success of the model is dependent on the accuracy of the basic input data. Base year enrollment is a known quantity, and retention ratios show little variation from year to year. Therefore, the key to an accurate projection is precise determination of the entering first grade cohorts over the projection period. The following describes the procedures for projecting entering cohorts for 1974-75 through 1992-93 for the current enrollment projection.

The United States Bureau of the Census published a public school age-grade matrix in 1960 and 1970. From these matrices, the proportions of the population in selected age groups enrolled in individual grades in public schools were determined. Inspection of the New York State and United States age-grade matrices showed that the proportions for most age groups in the State matrix, while lower than those in the United States, were moving toward the national figures. Therefore, the following assumptions were made:

1. In New York State, the proportion of children ages 7-18 attending public schools will increase until, in 1995, it reaches the corresponding 1970 nationwide value.
2. In New York State, the proportion of children ages 4-6 and 19-21 attending public school will remain the same as the 1970 value, as these proportions were already above the national figure.

As the matrix of proportions derived from the age-grade matrix was used to project only the first grade, the vectors representing first grade proportions by age in 1970 and 1995 were isolated, and a linear interpolation yielded projected vectors for 1980, 1985, and 1990. Multiplying the first grade vector by a vector of the projected populations in age groups 4-6, 7-9, 10-12, 13-15, 16-18, and 19-21 resulted in the projected first grade entering cohorts at five-year intervals. Linear interpolation procedures were used to fill in the cohort for single years within the five-year intervals.

Projected population figures for the age groups used in the model were not available. However, the New York State Office of Planning Services (OPS) provided population projections of five-year age groups^{c/} (0-4, 5-9, 10-14, ... etc.) at five year intervals (1975, 1980, ... etc.). The age groups needed for projections of the first grade cohorts were estimated from OPS population projections by the application of Sprague Multipliers^{d/}. The OPS projections which adhere closely to the Census "Series E" fertility rate assumption (zero population growth rate) were adjusted downward in the entering first grade cohorts to reflect the continued decline in the number of births and crude birth rates. This downward adjustment resulted in an inferred fertility rate assumption approximating the Census "Series F" fertility rate assumptions.

For the school years 1974-75 through 1979-80, first grades were projected from birth data from 1968 through 1973. Actual numbers of live births for the years 1968 through 1971 were obtained from the New York State Department of Health, Office of Biostatistics. A provisional figure was used for 1972 births, and births in 1973 were estimated from a provisional figure for the first quarter of the year. For the school years 1980-81 through 1992-93, first grades were projected from population projections, as described above.

Similar procedures were utilized to project nonpublic school enrollment for the same period. Retention ratios for each grade were calculated and applied in the same manner as for public schools. However, second grade was the basis for projecting entering cohorts for the current projection.

The New York State and United States nonpublic school age-grade matrices for 1970 disclosed the proportion of children ages 7-18 attending nonpublic schools in New York State was appreciably higher than the proportion in the United States. Inspection of these proportions between 1960 and 1970 showed the State value was approaching the nationwide value. Therefore, it was assumed that the State proportion will decrease until, in 1995, it reaches the corresponding 1970 nationwide value. Entering cohorts for 1974-75 through 1992-93 were calculated following the outline presented earlier. Slight adjustments were necessary for the purpose of smoothing out trends.

Kindergarten enrollment was stabilized at 26,000 for the projection period because recent years of data exhibit no definable enrollment pattern.

FOOTNOTES

a/ A retention ratio for a grade is calculated by dividing enrollment in that grade for a particular year into enrollment in the next higher grade in the following year. The most recent six years of enrollment data were used to establish trends for retention ratios and determine the ratios to use in the projection model.

b/ Kindergarten enrollment for a given year is determined by dividing the retention ratios from K to first grade into the first grade for the succeeding year.

c/ New York State Office of Planning Services. Demographic Projections for New York State Counties to 2,000 A.D. Revised June 1974.

d/ Jaffe, A.J. Handbook of Statistical Procedures for Long-Range Projections of Public School Enrollment. U.S. Department of Health, Education, and Welfare/Office of Education. U.S. Government Printing Office, Washington, D.C., 1969. pp 79-85.

APPENDIX B

COUNTIES INCLUDED IN EACH GEOGRAPHIC REGION
NEW YORK STATE
1972-73

New York City

N.Y. Central Office
Manhattan
Bronx
Brooklyn
Queens
Richmond

Nassau Suffolk

Nassau
Suffolk

Mid Hudson

Dutchess
Orange
Putnam
Rockland
Sullivan
Ulster
Westchester

Upper Hudson

Albany
Columbia
Fulton
Greene
Montgomery
Rensselaer
Saratoga
Schenectady
Schoharie

Lake George - Champlain

Clinton
Essex
Hamilton
Warren
Washington

Black River - St. Lawrence

Franklin
Jefferson
Lewis
St. Lawrence

Upper Mohawk Valley

Herkimer
Oneida

Central

Cayuga
Cortland
Madison
Onondaga
Oswego

Southern Tier East

Broome
Chemung
Delaware
Otsego
Tioga
Tompkins

Southern Tier Central

Chemung
Schuyler
Steuben

Southern Tier West

Allegany
Cattaraugus
Chautauqua

Genesee Finger Lakes

Genesee
Livingston
Monroe
Ontario
Orleans
Seneca
Wayne
Yates

Western

Erie
Niagara
Wyoming